



## CHAPTER 1

## MILITARY FREE-FALL PARACHUTE OPERATIONS

*Special operations missions require rapid and clandestine infiltrations into operational areas or objectives across the operational continuum. Military free-fall (MFF) parachuting enables the commander to infiltrate detachments or individuals into areas under conditions that restrict static-line parachute operations.*

### Characteristics

MFF parachute operations are flights over or next to the objective area from altitudes not normally associated with conventional parachute operations. MFF infiltrations normally take place during darkness or twilight to reduce the chance of enemy observation. Ram-air parachutes permit detachment members to deploy their parachutes at a designated altitude, assemble in the air, and land together in the objective area prepared to execute the mission. MFF operations take place under varying weather conditions.

### Advantages

MFF parachuting allows all detachment personnel to open at a predesignated altitude and land safely together as a tactical unit prepared to execute its mission. Although free-fall parachuting can produce highly accurate landings, it is primarily a means of entering a designated impact area within the objective area. This type of drop can be made except under the most adverse weather conditions,

The advantages of MFF parachuting are as follows:

- As a means to infiltrate hostile areas when low-altitude penetration is not practical because of enemy ground fire.
- When there is a need or desire for precision landings on small drop zones (DZs).
- When immediate assembly of the operational detachment is necessary.
- When the desired or available aircraft cannot be used for static-line parachute operations.
- Where parachute operations using aircraft at low altitudes are prohibited, unsafe, or otherwise impractical, such as in mountainous terrain.
- When infiltration is to occur with other operations involving aircraft, or formations of aircraft, flying at high altitude.
- When navigational aids (NAVAIDS) are not available to ensure the required accuracy of drops at low altitude (for example, deserts and jungles).
- When there is a need for near simultaneous landings at multiple points on an objective

(for example, attack or seizure of key installations).

- When standoff operations increase supporting aircraft survivability.
- When low-signature infiltrations are necessary to mission success.

### Applications

MFF parachute operations are ideally suited for, but not limited to, the infiltration of operational elements, pilot teams, assets, and personnel replacements conducting various missions across the operational continuum. Pathfinder or combat control teams (CCTS) can also infiltrate to provide terminal guidance for future airborne operations.

MFF parachute operations do not take place only at high altitude. The MFF parachutist can exit an aircraft as low as 5,000 feet above ground level (AGL), immediately deploying his parachute. The free-fall tactical element can exit an aircraft in a fraction of the time required for a comparable static-line operation. Such quick exits also reduce dispersion even without considering the ram-air parachute's increased maneuverability.

### Considerations

When planning MFF operations, commanders consider the coordination with necessary agencies and services to obtain jamming for the supporting air service. This coordination also includes planning for the disruption of detection systems when operations are to take place in hostile areas protected by

radar and other detection systems. Other considerations include—

- Availability of aircrews working under arduous conditions in depressurized aircraft at high altitudes.
- Specialized training of personnel and special equipment required.
- Currency and proficiency levels of training of the parachutist.
- Delivery altitudes requiring the use of oxygen and special environmental protective clothing.
- Limitations on jumping with extremely bulky or heavy equipment. The total combined weight of the parachutist, parachute, and equipment cannot exceed 360 pounds.
- Accurate weather data. This information is essential. The lack of accurate meteorological data, such as winds aloft, jet stream direction and velocity, seasonal variances, or topographical effects on turbulence, can severely affect the infiltration's success or the mission's combat effectiveness.
- High altitude high opening (HAHO) standoff operations. Wind, cold, and high altitude openings increase the probability of physiological stress and injury, parachute damage, and opening shock injuries.
- Minimum and maximum exit and opening altitudes (Figure 1-1).

**WARNING**  
**DO NOT fly for a period of 24 hours after diving (AFR 50-27).**

EXIT ALTITUDE (IN FEET)		OPENING ALTITUDE (IN FEET)	
Minimum	Maximum	Minimum	Maximum
5,000 AGL	43,000 MSL	3,500 AGL	25,000 MSL

**NOTE:** Openings above 25,000 feet MSL exceed the parachute's design parameters.

Figure 1-1. Minimum and maximum exit and opening altitudes.

## Physical Examination and Training Requirements

Before participating in MFF operations and regardless of altitude or aircraft used, each MFF parachutist must have met certain minimum requirements. Parachutists must have a high altitude low opening (HALO) physical examination and have a current Physiological Training Card (AF Form 1274), which are prerequisites for all MFF operations.

The MFF student must take a physical exam within 1 year before MFF training. To sustain currency, the MFF parachutist must undergo a physical exam every 3 years with an interim exam performed annually up to age 45. At age 45 and above, he must undergo a full physical exam annually. In addition, the military free-fall parachutist must take physiological training every 3 years, to include oxygen procedural training and a high altitude chamber flight.

## Equipment

The MFF parachutist jumps with the proper table of organization and equipment (TOE) and table of allowance (TA) clothing and equipment for the climatic conditions facing him, as well as food and survival items. Additional equipment required includes the free-fall parachutist helmet goggles, and altimeter. The detachment members jump with and carry all operational equipment and supplies as individual loads except when using accompanying free-fall bundles.

NOTE: All MT1 series RAPSs are compatible in that the main canopies have exactly the same load-bearing and gliding capability. The RAPSs may be jumped on the same pass and combined in the same airborne operation. The only jumpmaster planning consideration is to ensure he plots the high altitude release point (HARP) for the smallest (least gliding capable) canopy, usually the reserve for some sister service RAPS. (See Appendix B for additional information.)

If dropping selected items as accompanying supplies, the parachutist packs them in proper aerial delivery containers. Once the drop is in progress, the detachment members locate the bundles and follow them to the ground under canopy to lessen

the chance of losing the equipment. Techniques used to free-fall equipment include-

- An automatic rip cord release (ARR) and a rip cord-activated parachute.
- Power-actuated reefing line cutters and items of issue available to airborne units when shorter delays are necessary.
- A ram-air free-fall bundle system,
- A high altitude airdrop resupply system for delivery of loads up to 2,000 pounds rigged in A-22 containers.
- A drogue-stabilized, tandem parachute system.

## Oxygen

For altitudes above 10,000 feet mean sea level (MSL), the use of oxygen is mandatory for aircrew members (see Chapter 7). Special equipment needed in addition to the goggles and helmets are oxygen masks and several main oxygen sources. These oxygen sources include-

- An oxygen console to support an entire operational element for long flights,
- The delivery aircrafts oxygen supply to support the aircrew.
- Walk-around oxygen bottles for jumpmasters, aircrew, oxygen safeties, or physiological technicians.
- Portable/bailout oxygen system with oxygen mask for the parachutist after he has disconnected from the onboard console and left the aircraft

## Procedures

When employed correctly SFODs or larger units can make MFF infiltrations. However, since the number of personnel normally dropped in this manner is small, emphasis is placed on taking only absolutely essential equipment and supplies. The MFF parachutist normally attaches the combat pack (all-purpose, lightweight, individual, carrying equipment [ALICE]) below his main parachute (Figure 1-2). However, he may also attach the equipment to his front like the static-line parachutist does (Figure 1-3). Chapter 4 addresses other rucksack systems authorized by sister services,

**Briefing**

The briefing includes a review of en route plans and actions at specified points along the route in case of an abort or enemy action. It explains all the techniques of the jump, to include oxygen procedures, when to arm the ARR, and actions at time warnings. It indicates that a minimum of two extra parachute systems and altimeters will be available in case of a premature firing of the ARR, a failure of an altimeter, or the accidental opening of a container.

**Station**

Under tactical conditions, the operational element is completely rigged at the point of no return. This procedure ensures the personnel will exit the aircraft with all their equipment in case of a bailout over enemy territory. A final equipment check is made. All detachment members calibrate their

altimeters so that the instruments read distance above the ground at the DZ.

**In-Flight**

En route, the aircraft commander keeps the jumpmaster informed of the aircraft's position. In turn, the jumpmaster keeps the parachutist informed. This information is essential. The parachutist must know his relative position along the route so that he can apply the required actions in case of an abort or enemy action. While in flight, the aircraft commander keeps the MFF jumpmaster informed of changes to the altimeter reading should it be necessary to abort and make an emergency exit. All actions at time warnings will be in accordance with (IAW) pm-mission briefings and this manual. The pilot will signal the jumpmaster upon arriving at the HARP. The parachutist exits the aircraft on the jumpmaster's command.

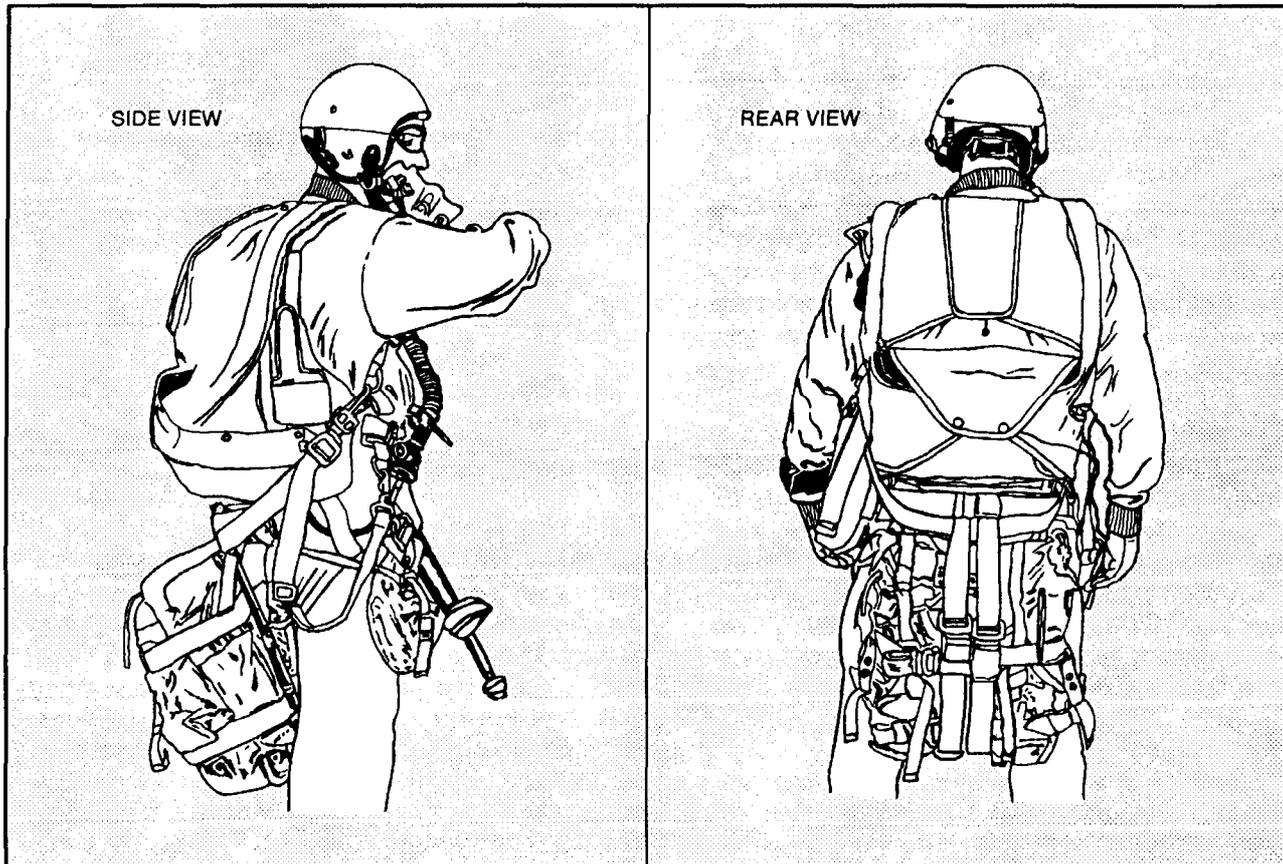


Figure 1-2. Parachutist with rear-mounted combat pack.

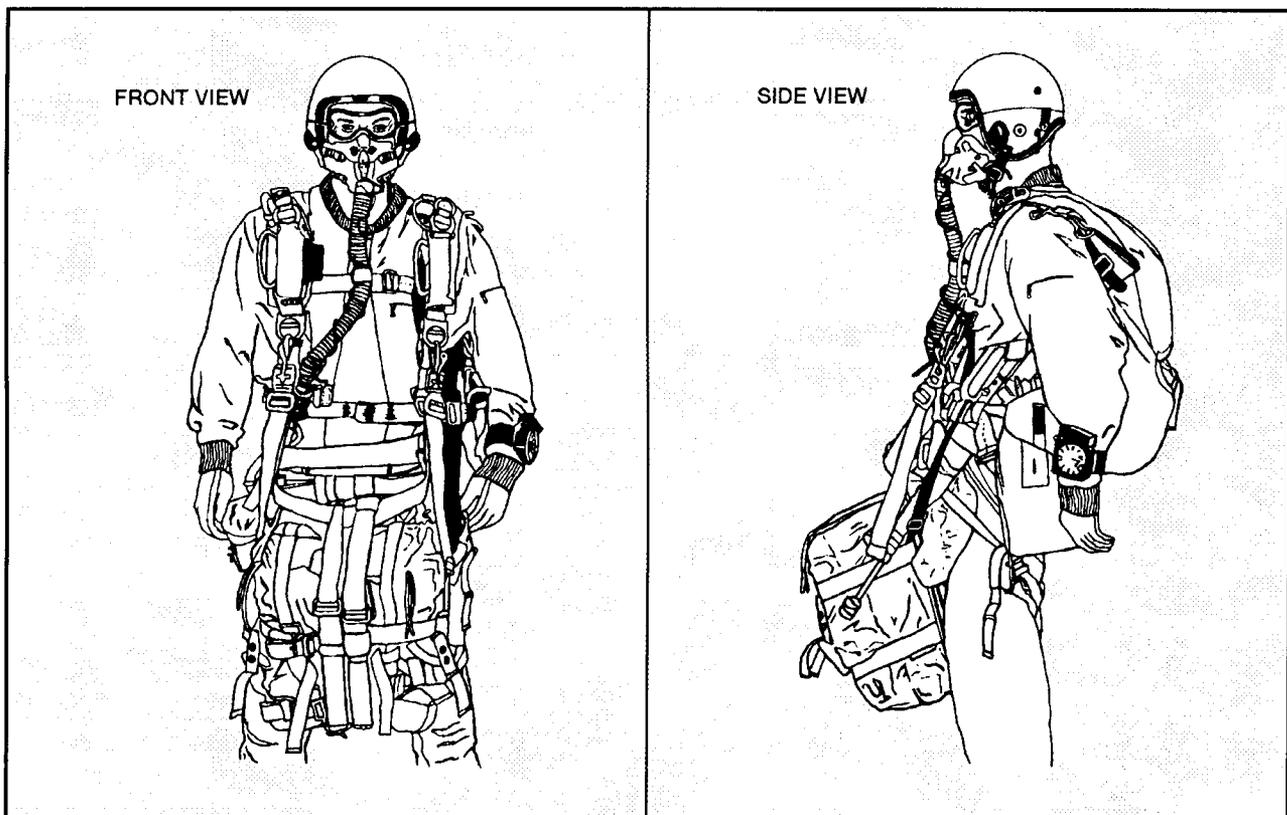


Figure 1-3. Parachutist with front-mounted combat pack.

### Free-Fall

Once the parachutist has exited the aircraft, he orients himself on a preselected heading or groups on a prebriefed or designated parachutist. The detachment members then fall along the aircraft's flight path until manually activating their parachutes at the predesignated altitude. This technique keeps the parachutists' dispersion relatively constant during free-fall. Visual sighting of terrain features will not always be a reliable means of determining heading, for example, in night

operations, flat jungle areas, or desert terrain. One way the parachutist maintains heading is to orient himself the aircraft's direction of flight upon exiting. An alternate method is the use of a wrist-mounted compass. If terrain permits, the HALO team orients on a specific terrain feature and begins navigating toward it during free-fall.

NOTE: Commanders must ensure that MFF training operations conducted outside military-controlled airspace comply with Federal Aviation Administration or host nation agreements or regulations.